

What is claimed is:

1. An apparatus for a network, comprising:
 - a policy agent to define a header policy for a packet to be transmitted through the network based upon characteristics of the network; and
 - a compression logic to compress a header of the packet based upon whether the header policy indicates the header of the packet is to be compressed.
- 10 2. The apparatus of claim 1, further comprising:
 - a filter to select between delivering the packet to the compression logic and delivering the packet to the network without header compression based upon the header policy.
- 15 3. The apparatus of claim 1, further comprising:
 - a filter to select between delivering the packet from the compress logic to the network and discarding the packet from the compress logic, based upon the header policy.
- 20 4. The apparatus of claim 1, wherein the policy agent is further to generate header compression parameters based upon the header policy for the compress logic to compress the header of the packet.

5. The apparatus of claim 1, wherein the characteristics of the network comprises at least one of network type, bandwidth, information on whether a network device routing the packet transmitted from the apparatus is aware of header compression.

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6. The apparatus of claim 1, wherein the policy agent is further to define another header policy for another packet received through the network based upon at least one of the characteristics of the network, user's preference for header decompression and a predefined rule on header decompression.

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7. The apparatus of claim 6, further comprises:
a decompress logic to decompress a header of the another packet based upon whether the another header policy indicates the header for the another packet is to be decompressed.

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8. The apparatus of claim 6, further comprising:
a filter to bypass the decompression logic and deliver the another packet to an extractor to extract frames from the another packet without header decompression in response to the another header policy indicating that the header 20 for the another packet is not to be decompressed.

9. The apparatus of claim 6, further comprising:

a filter to select between delivering the another packet from the decompress logic to an extractor to extract frames from the another packet and discarding the another packet from the decompress logic, based upon the another header policy.

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10. The apparatus of claim 1, wherein the policy agent is further to define the header policy for the packet based upon characteristics of the packet.

11. A method, comprising:

10 defining a header compression policy for a packet to be transmitted through a network based upon user's preference for header compression; and compressing a header of the packet based upon whether the header policy indicates the header is to be compressed.

15 12. The method of claim 1, further comprising:

delivering the packet to the network without header compression in response to the header policy indicating that the header of the packet is not to be compressed.

20 13. The method of claim 11, further comprising:

selecting between delivering the packet after header compression to the network and discarding the packet after header compression, based upon the header policy.

25 14. The method of claim 11, wherein the compressing further comprises:

generating header compression parameters based upon the header policy;
and

compressing the header of the packet based upon the header compression
parameters.

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15. The method of claim 11, further comprising:
 - defining another header policy for another packet received through the network based upon user's preference for header decompression; and
 - decompressing a header of the another packet based upon whether the another header policy indicates the header for the another packet is to be decompressed.
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16. The method of claim 15, further comprising:
 - delivering the another packet to an extractor to extract frames from the another packet without header decompression in response to the another header policy indicating that the header for the another packet is not to be decompressed.
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17. The method of claim 15, further comprising:
 - selecting between delivering the another packet after header decompression to an extractor to extract frames from the another packet and discarding the another packet after header decompression, based upon the another header policy.
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18. The method of claim 11, wherein the defining further comprises:

defining the header policy for the packet to be transmitted through the network based upon characteristics of the network.

19. The method of claim 18, wherein the characteristics of the network
5 comprises at least one of network type, bandwidth, information on whether a network device routing the packet transmitted from the apparatus is aware of header compression.

20. The method of claim 11, wherein the defining further comprises:
10 defining the header compression policy for the packet further based upon a predefined rule on header compression.

21. A machine readable medium comprising a plurality of instructions that in response to being executed result in an apparatus:
15 defining a header policy for a packet to be transmitted through a network based upon characteristics of the network; and compressing a header of the packet based upon whether the header policy indicates the header is to be compressed.

20 22. The machine readable medium of claim 21, wherein the plurality of instructions further result in the apparatus:
selecting between delivering the packet to a compression logic for header compression and delivering the packet to the network without header compression based upon the header policy.

23. The machine readable medium of claim 21, wherein the plurality of instructions further result in the apparatus:

selecting between delivering the packet after header compression to the network and discarding the packet after header compression, based upon the
5 header policy.

24. The machine readable medium of claim 21, wherein the plurality of instructions further result in the apparatus:

generating header compression parameters based upon the header policy
10 for the compress logic to compress the header of the packet.

25. The machine readable medium of claim 21, wherein the characteristics of the network comprises at least one of network type, bandwidth, information on whether a network device routing the packet transmitted from the apparatus is
15 aware of header compression.

26. The machine readable medium of claim 21, wherein the plurality of instructions further result in the apparatus:

defining another header policy for another packet received through the
20 network based upon at least one of the characteristics of the network, user's preference for header decompression and predefined rule on header decompression.

27. The machine readable medium of claim 21, wherein the plurality of
25 instructions further result in the apparatus:

decompressing a header of the another packet based upon whether the another header policy indicates the header for the another packet is to be decompressed.

28. The machine readable medium of claim 21, wherein the plurality of 5 instructions further result in the apparatus:

delivering the another packet to an extractor to extract frames from the another packet without header decompression in response to the another header policy indicating that the header for the another packet is not to be decompressed.

10 29. The machine readable medium of claim 21, wherein the plurality of instructions further result in the apparatus:

selecting between delivering the another packet after header decompression to an extractor to extract frames from the another packet and discarding the another packet after header decompression, based upon the 15 another header policy.

30. The machine readable medium of claim 21, wherein the plurality of instructions that result in the apparatus defining the header compression policy, further result in the apparatus:

20 defining the header policy further based upon at least one of user's preference for header compression and a predefined rule on header compression.